

Claims:

1. An image display device characterized in that the improvement comprises: an image display means for displaying an image by moving chargeable particles arranged between electrodes by means of a voltage applied to the electrodes; and a light emission means for emitting a light to an image display surface of the image display means.
2. The image display device according to claim 1, wherein the particles are constructed by particles having the same color and the same charge characteristics.
3. The image display device according to claim 1, wherein the particles are constructed by particles having different colors and different charge characteristics.
4. The image display device according to one of claims 1 - 3, wherein the particles are arranged in a space defined by partition walls.
5. The image display device according to claim 4, wherein the partition walls are arranged around the space and the image display means has a plurality of pixels defined by the partition walls.
6. The image display device according to claim 4 or 5, wherein a first electrode is arranged in the space at a side of the image display surface and a second electrode is arranged at the other side thereof.
7. The image display device according to claim 4 or 5, wherein both of a first electrode and a second electrode are arranged in the space at a reverse side of the image display surface.
8. The image display device according to one of claims 4 - 7, wherein a gas is filled in the space.
9. The image display device according to one of claims 4 - 8, wherein the space is a pressure reduction state of $10^5 - 10^{-4}$ Pa.
10. The image display device according to one of claims 1 - 9, wherein the light emission means comprises a linear illuminant extending along a peripheral of the image display means.
11. The image display device according to claim 10, wherein the light emission means comprises a light guide plate arranged at a front surface of the light display surface of the image display means, and a

light emitted from the linear illuminant to a side surface or a rear surface of the light guide plate is reflected by the light guide plate and is emitted to the image display surface.

12. The image display device according to claim 11, wherein the light guide plate comprises a substrate for introducing a light from its side surface or a rear surface, a dotted or linear reflection-layer arranged to the substrate for reflecting a light toward the image display surface, and a dark color-layer arranged to a view surface of the reflection-layer.

13. The image display device according to claim 11, wherein a V-recess having a prism surface used for reflecting a light emitted from the linear illuminant to the image display surface is arranged to a surface of the light guide plate, and a V-recess angle defined by an angle of the prism surface of the V-recess with respect to a surface of the light guide plate is set to 25° - 40° .

14. The image display device according to claim 13, wherein a reflective property in the case of a white color displaying is such a state that an angle of incident light, at which a reflection coefficient is 0.5 in the case that an angle of incident light is varied by 15° - 90° and a reflection coefficient at 15° , is not less than 40° .

15. The image display device according to claim 13, wherein a view angle in the case of a white color displaying is not less than 40° at one side on a half bandwidth.

16. The image display device according to one of claims 1 - 15, wherein the image display means and the light emission means have flexibility.

17. The image display device according to one of claims 1 - 16, wherein the image display comprises the image display surface at its both surfaces.

18. The image display device according to one of claims 1 - 17, wherein as the particles use is made of liquid powders, which indicate a high fluidity in an aerosol state such that solid-like substances are suspended in a gas stably as dispersoid.

19. An image display device which comprises an image display panel, in which two or more groups of particles having different colors and different charge characteristics are sealed between opposed two substrates, at least one of two substrates being transparent, and, in which the particles, to which an electrostatic field produced by a pair of electrodes provided on one substrate or both substrates respectively is applied, are made to move so as to display an image, characterized in that a color filter is arranged to an outer surface or an inner surface of a transparent substrate of the image display panel so as to perform a color displaying.

20. The image display device according to claim 19, wherein an average particle diameter of the particles is 0.1 - 50 μm .

21. The image display device according to claim 19 or 20, wherein the surface charge density in an absolute value of the particles measured by using the carrier in accordance with a blow-off method is 5 - 150 $\mu\text{C}/\text{m}^2$.

22. The image display device according to one of claims 19 - 21, wherein the particles are particles in which the maximum surface potential, in the case that the surface of particles is charged by a generation of Corona discharge caused by applying a voltage of 8 KV to a Corona discharge device deployed at a distance of 1 mm from the surface, is 300 V or greater at 0.3 second after the discharge.

23. An image display device which comprises an image display panel, in which the liquid powders, which indicate a high fluidity in an aerosol state such that solid-like substances are suspended in a gas stably as dispersoid, are sealed between opposed two substrates, at least one of two substrates being transparent, and, in which the liquid powders, to which an electrostatic field produced by a pair of electrodes provided on one substrate or both substrates respectively is applied, are made to move so as to display an image, characterized in that a color filter is arranged to an outer surface or an inner surface of a transparent substrate of the image display panel so as to perform a color displaying.

24. The image display device according to claim 23, wherein an apparent volume in a maximum floating state of the liquid powders is two times or more than that in none floating state.

25. The image display device according to claim 23 or 24, wherein a time change of the apparent volume of the liquid powders satisfies the following formula:

$$V_{10}/V_5 > 0.8;$$

here, V_5 indicates the apparent volume (cm^3) of the liquid powders after 5 minutes from the maximum floating state; and V_{10} indicates the apparent volume (cm^3) of the liquid powders after 10 minutes from the maximum floating state.

26. The image display device according to one of claims 23 - 25, wherein an average particle diameter $d(0.5)$ of the solid-like substances composing the liquid powders is 0.1 - 20 μm .